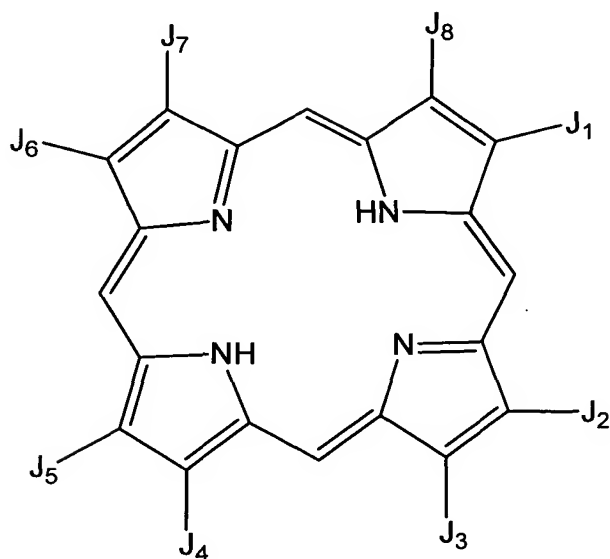
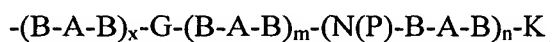


CLAIMS

1. A composition comprising a compound according to the formula



- 5 wherein at least one of J₁, J₂, J₃, J₄, J₅, J₆, J₇ and J₈ is independently selected from the group consisting of



- 10 wherein each A is independently selected from the group consisting of: a nonentity, C₁-C₁₂ alkyl, C₂-C₁₂ alkenyl, C₂-C₁₂ alkynyl, C₃-C₁₂ cycloalkyl, C₃-C₈ cycloaryl, C₃-C₁₂ cycloalkenyl, C₃-C₁₂ cycloalkynyl, C₁-C₁₂ alkanol, C₃-C₁₂ cycloalkanol, and C₃-C₈ hydroxyaryl;

- 15 each B is independently selected from the group consisting of: a nonentity, C₁-C₁₂ alkyl, C₂-C₁₂ alkenyl, C₂-C₁₂ alkynyl, C₃-C₁₂ cycloalkyl, C₃-C₈ cycloaryl, C₃-C₁₂ cycloalkenyl, C₃-C₁₂ cycloalkynyl, C₁-C₁₂ alkanol, C₃-C₁₂ cycloalkanol, and C₃-C₈ hydroxyaryl;

and with the proviso that each -B-A-B- unit contain at least one carbon atom;

wherein G is independently selected from the group consisting of $-N(P)-$, $-(C=O)-N(P)-$, $-N(P)-(C=O)-$, and a nonentity;

x is independently 0 or 1;

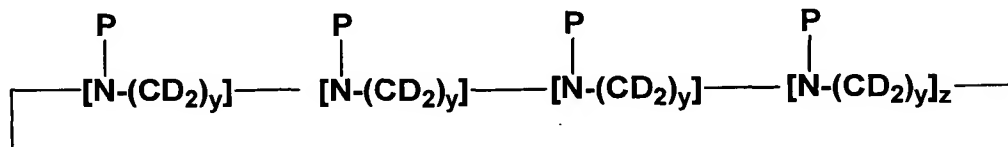
m is independently 0 or 1;

5 n is independently an integer from 0 to 20;

each P is independently selected from the group consisting of H and C_1 - C_{12} alkyl;

each K is independently selected from the group consisting of H, C_1 - C_{12} alkyl, C_2 - C_{12} alkenyl, C_2 - C_{12} alkynyl, C_3 - C_{12} cycloalkyl, C_3 - C_8 cycloaryl, C_3 - C_{12} cycloalkenyl, C_3 - C_{12} cycloalkynyl, C_1 - C_{12} alkanol, C_3 - C_{12} cycloalkanol, and C_3 - C_8 hydroxyaryl, and Q;

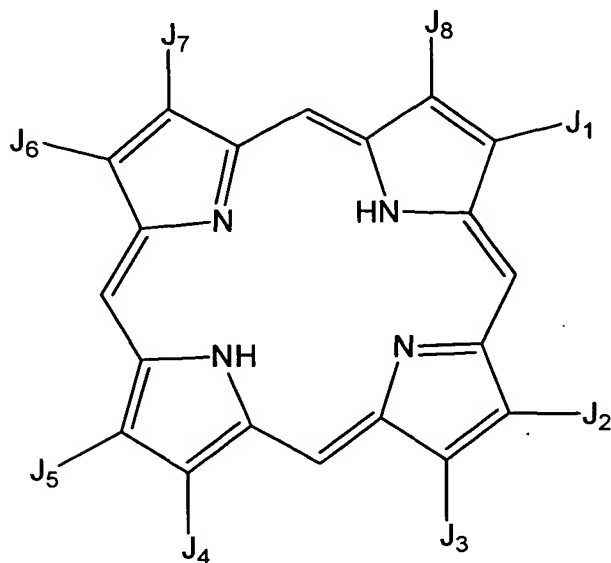
where each Q is independently selected from the group consisting of



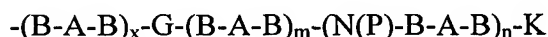
15 where each P is independently selected from the group consisting of H and C_1 - C_{12} alkyl, each D is selected from the group consisting of H and C_1 - C_{32} alkyl, y is an integer from 1 to 8, and z is an integer from 0 to 5, and where the Q moiety is attached to the remainder of the molecule at any C or N atom in the Q moiety (including C atoms in the D or P moieties) by removing a hydrogen atom, a P
20 substituent, or a D substituent of the Q moiety to form an open valence for attachment to the remainder of the molecule;

and where the remaining members or member of J_1 , J_2 , J_3 , J_4 , J_5 , J_6 , J_7 and J_8 are each independently selected from the group consisting of H, $-B-A-B$, $-COOH$, $-SO_3H$, $-B-A-B-COOH$, or $-B-A-B-SO_3H$, where each A and each B are
25 independently selected as defined above and with the proviso that each $-B-A-B$ -unit has at least one carbon atom.

2. A composition comprising a compound according to the formula



wherein at least one of J₁, J₂, J₃, J₄, J₅, J₆, J₇ and J₈ is independently M,
5 where each M is independently selected from the group consisting of



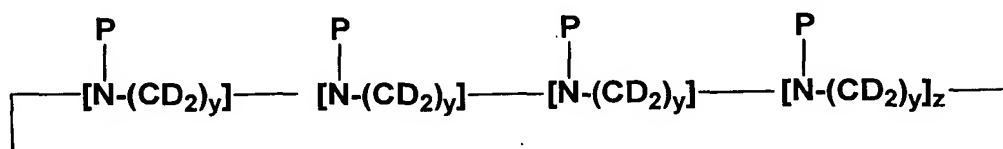
wherein each A is independently selected from the group consisting of: a
10 nonentity, C₁-C₁₂ alkyl, C₂-C₁₂ alkenyl, C₂-C₁₂ alkynyl, C₃-C₁₂ cycloalkyl, C₃-C₈
cycloaryl, C₃-C₁₂ cycloalkenyl, C₃-C₁₂ cycloalkynyl, C₁-C₁₂ alkanol, C₃-C₁₂
cycloalkanol, and C₃-C₈ hydroxyaryl;

each B is independently selected from the group consisting of: a
nonentity, C₁-C₁₂ alkyl, C₂-C₁₂ alkenyl, C₂-C₁₂ alkynyl, C₃-C₁₂ cycloalkyl, C₃-C₈
15 cycloaryl, C₃-C₁₂ cycloalkenyl, C₃-C₁₂ cycloalkynyl, C₁-C₁₂ alkanol, C₃-C₁₂
cycloalkanol, and C₃-C₈ hydroxyaryl;

and with the proviso that each -B-A-B- unit contain at least one carbon
atom;

wherein G is independently selected from the group consisting of -N(P)-,
20 -(C=O)-N(P)-, -N(P)-(C=O)-, and a nonentity;

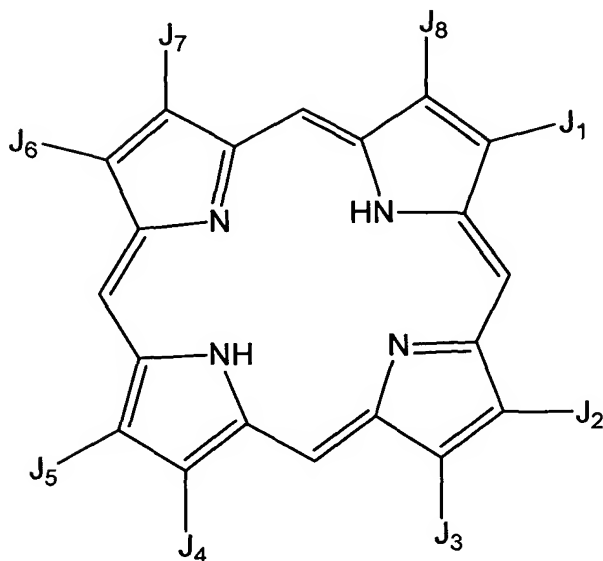
- x is independently 0 or 1;
m is independently 0 or 1;
n is independently an integer from 0 to 20;
each P is independently selected from the group consisting of H and
5 C₁-C₁₂ alkyl;
each K is independently selected from the group consisting of H, C₁-C₁₂ alkyl, C₂-C₁₂ alkenyl, C₂-C₁₂ alkynyl, C₃-C₁₂ cycloalkyl, C₃-C₈ cycloaryl, C₃-C₁₂ cycloalkenyl, C₃-C₁₂ cycloalkynyl, C₁-C₁₂ alkanol, C₃-C₁₂ cycloalkanol, and C₃-C₈ hydroxyaryl, and Q;
10 where each Q is independently selected from the group consisting of



- where each P is independently selected from the group consisting of H and C₁-C₁₂ alkyl, each D is selected from the group consisting of H and C₁-C₃₂ alkyl,
15 y is an integer from 1 to 8, and z is an integer from 0 to 5, and where the Q moiety is attached to the remainder of the molecule at any C or N atom in the Q moiety (including C atoms in the D or P moieties) by removing a hydrogen atom, a P substituent, or a D substituent of the Q moiety to form an open valence for attachment to the remainder of the molecule;
20 and where the remaining members or member of J₁, J₂, J₃, J₄, J₅, J₆, J₇ and J₈ are each independently selected from the group consisting of H, -B-A-B, -COOH, -SO₃H, -B-A-B-COOH, or -B-A-B-SO₃H, where each A and each B are independently selected as defined above and with the proviso that each -B-A-B- unit has at least one carbon atom;
25 with the proviso that M excludes moieties of the form
-K₁-G₅-L₅-(N(P₅)-A₅)_n-K₂
where K₁ is independently selected from the group consisting of C₁-C₈ alkyl and where the valence to the left of K₁ attaches to the porphyrin ring;

- G₅ is -O-, -(C=O)-, -C(=O)-O-, -O-(C=O)-, -O-(C=O)-O-, -O-(C=O)-N-,
-N-(C=O)-O-, or a nonentity;
- L₅ is C₁-C₈ alkyl, C₃-C₈ cycloalkyl, C₃-C₈ cycloaryl, C₁-C₈ alkoxy, C₁-C₈
alkyl-C₃-C₈ cycloalkyl, C₁-C₈ alkyl-C₃-C₈ cycloaryl, C₁-C₈ alkoxy-C₃-C₈
5 cycloaryl, C₃-C₈ cycloalkyl-C₃-C₈ cycloaryl, C₃-C₈ cycloalkyl-C₁-C₈ alkyl, C₃-C₈
cycloaryl-C₁-C₈ alkyl, C₃-C₈ cycloaryl-C₁-C₈ alkoxy, C₃-C₈ cycloaryl-C₃-C₈
cycloalkyl, or a nonentity;
- each A₅ is independently selected from the group consisting of C₁-C₈ alkyl, C₂-C₈
alkenyl, C₂-C₈ alkynyl, C₃-C₈ cycloalkyl, C₃-C₈ cycloaryl, C₃-C₈ cycloalkenyl,
10 and C₃-C₈ cycloalkynyl;
- P₅ is selected from the group consisting of H and C₁-C₈ alkyl;
- n is an integer from 2 to 8;
- and K₂ is independently selected from the group consisting of H, C₁-C₈ alkyl,
C₂-C₈ alkenyl, C₂-C₈ alkynyl, C₃-C₈ cycloalkyl, C₃-C₈ cycloaryl, C₃-C₈
15 cycloalkenyl, C₃-C₈ cycloalkynyl, C₁-C₈ alkanol, C₃-C₈ cycloalkanol, and C₃-C₈
hydroxyaryl.
3. The composition of claim 2, where G is independently selected from
-(C=O)-N(P)- and -N(P)-(C=O)-.
- 20
4. The composition of claim 2, where the Q moiety is attached to the remainder
of the molecule at any N atom in the Q moiety by removing a P substituent of the
Q moiety to form an open valence for attachment to the remainder of the
molecule.
- 25
5. The composition of claim 2, wherein each A and B substituent, if present, is
selected from C₁-C₁₂ alkyl.
6. The composition of claim 2, wherein at least one A substituent comprises a
30 cyclopropane group.

7. The composition of claim 2 comprising a compound of the formula



where J₁ and J₂ are independently M and each M is independently selected from
5 the group consisting of $-(B-A-B)_x-G-(B-A-B)_m-(N(P)-B-A-B)_n-K$;
J₃, J₄, J₆ and J₈ are independently selected from methyl and ethyl; and
J₅ and J₇ are independently selected from methyl, ethyl, and $-SO_3H$.

8. The composition of claim 7, where J₁ and J₂ are independently M and each M
10 is independently selected from the group consisting of
 $-(B-A-B)-G-(B-A-B)-(N(P)-B-A-B)_n-K$.

9. The composition of claim 8, wherein at least one B-A-B unit comprises a
cycloalkyl moiety.

15

10. The composition of claim 9, wherein at least one B-A-B unit comprises a
cyclopropyl moiety.

11. The composition of claim 7, where J₁ and J₂ are independently M and each M
20 is independently selected from the group consisting of

-C₁-C₁₂ alkyl-G-C₁-C₁₂ alkyl-(N(P)-B-A-B)_n-K.

12. The composition of claim 7, where J₁ and J₂ are independently M and each M is independently selected from the group consisting of

5 -C₁-C₁₂ alkyl-(C=O)-N(P)-C₁-C₁₂ alkyl-(N(P)-B-A-B)_n-K.

13. The composition of claim 7, where J₁ and J₂ are independently M and each M is independently selected from the group consisting of

10 -(CH₂)₂C(=O)N(P₂)-C₁-C₄ alkyl-[NH(CH₂CH₂CH₂CH₂)]_fC₁-C₁₂ alkyl, where P₂ is H, methyl, or ethyl, and f is an integer from 1 to 10.

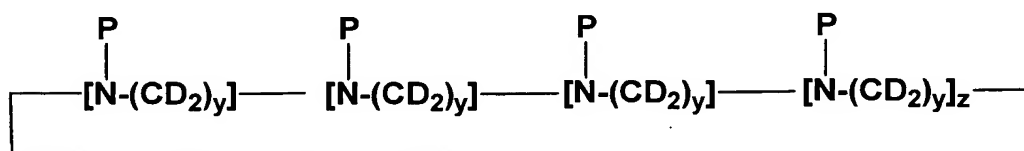
14. The composition of claim 10, where J₁ and J₂ are identical.

15. The composition of claim 11, where J₁ and J₂ are identical.

15

16. The composition of claim 1, wherein each -K is independently Q;

where each Q is independently selected from the group consisting of



20

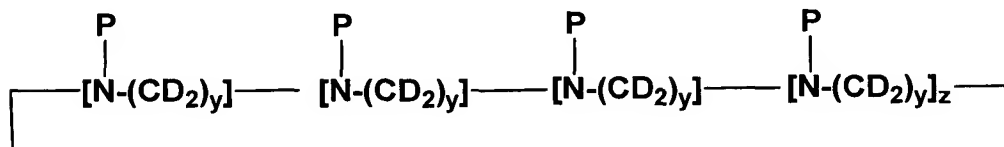
; wherein only one D moiety is selected from the group consisting of C₁-C₃₂ alkyl and all remaining D moieties are H; wherein three P groups are selected from the group consisting of -H and -CH₃; wherein the fourth P group is absent and the Q moiety is attached to the remainder of the molecule at that valence; and wherein y is 2, 3, or 4 and z is 0, 1, or 2.

25

17. The composition of claim 2, wherein each -K is independently

Q;

where each Q is independently selected from the group consisting of



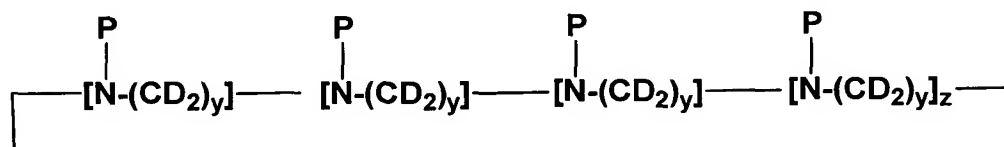
5 ;

wherein only one D moiety is selected from the group consisting of C₁-C₃₂ alkyl and all remaining D moieties are H; wherein three P groups are selected from the group consisting of -H and -CH₃; wherein the fourth P group is absent and the Q moiety is attached to the remainder of the molecule at that valence; and wherein y is 2, 3, or 4 and z is 0, 1, or 2.

18. The composition of claim 6, wherein each -K is independently

Q;

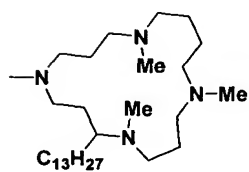
where each Q is independently selected from the group consisting of



15 ;

wherein only one D moiety is selected from the group consisting of C₁-C₃₂ alkyl and all remaining D moieties are H; wherein three P groups are selected from the group consisting of -H and -CH₃; wherein the fourth P group is absent and the Q moiety is attached to the remainder of the molecule at that valence; and wherein y is 2, 3, or 4 and z is 0, 1, or 2.

19. The composition of claim 1, wherein -K is



5 20. The composition of claim 2, wherein -K is

